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Coincidence-based Gravitational Wave Burst Searches in LIGO and Astrophysical Interpretation KEITH THORNE, Pennsylvania State University, LIGO SCIENTIFIC COLLABORATION — We present the status of searches for gravitational-wave bursts (GWBs) in LIGO's current science run from coincidences between candidates based on each interferometer's data stream using single-instrument analysis methods. One such method uses Bayesian time-domain analysis (BlockNormal) to identify candidate bursts in each instrument, followed by multiple-instrument coincidence and waveform coherence tests. We show that this method is robust against single-instrument large-amplitude transients. We detail how one could extract astrophysical limits on galactic source populations of GW bursts (such as supernova core collapses) using a coincidence-based search.

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